STOKES
ENVIRONMENTAL
ASSOCIATES, LTD.

PHOTO SIMULATION AND VISUAL IMPACT ASSESSMENT CONDUCTED AT

HARWOOD MILLS
MULCH SITE
715 LAKESIDE DRIVE
YORKTOWN, VIRGINIA

PREPARED FOR:

ALLTEL COMMUNICATIONS, INC
C/O MS. JANET HUNTER
4525 COLUMBUS STREET, SUITE 100
VIRGINIA BEACH, VIRGINIA 23462

PREPARED BY:
STOKES ENVIRONMENTAL ASSOCIATES, LTD.
PROJECT NUMBER SEA 03-1782
REPORT ISSUED: 7 MAY 2003

4101 Granby Street • Suite 404 • Norfolk, Virginia 23504 • Office (757) 623-0777 • FAX (757) 623-2785

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The following Environmental Professionals prepared Photo Simulation Visual Impact Assessment:

Thomas L. Stokes, Jr., President
Registered Environmental Manager REM 5854

7 May 2003
Date

Jesse A. Redd, Project Manager
Environmental Professional

7 May 2003
Date

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Introduction

Stokes Environmental Associates, Ltd. (SEA) conducted a thorough analysis of the potential for visual impacts from Alltel's proposed Harwood Mills/Mulch telecommunication tower site located at 715 Lakeside Drive in Yorktown, Virginia by implementing a Visual Impact Assessment in order to evaluate the visibility of a 150-foot tower, followed by a photographic simulation of the facility. The Visual Impact Assessment included a review of published street and topographic maps, a field investigation and identification of existing visual impacts within the study area, and determination of the potential for visual impact by the proposed tower using an analysis of the lines of sight from the surrounding areas to the tower. The purpose of this investigation was to evaluate any potential visual impacts in the surrounding area that would be attributable to the proposed telecommunication tower.

Methodology – Visual Impact Assessment

The Visual Impact Assessment was conducted at the site and surrounding vicinity by Mr. Jesse A. Redd on 6 May 2003, with weather conditions during the investigation mostly cloudy with winds from 5 to 10 mph out of the southwest. The assessment included a review of published street and topographic maps and field investigation of the of the current conditions in the vicinity of the subject site, identification of existing visual impacts within the study area, and a determination of potential for visual impact by the proposed tower.

A review of published mapping was conducted prior to the field investigation, in order to determine elevation, bearing and distance relationships between the proposed tower site and key locations within one mile of the proposed tower site.

A field investigation of the site was conducted by S.E.A., Ltd. on 6 May 2003. Potential visual impact was determined by calculating the tower height that would be necessary in order to have a direct line of sight to the tower over low objects (i.e. structures, trees, shrubs, etc.). This was accomplished by determining the angle of inclination from the viewing to the top of the low object, with the use of a clinometer (an instrument used for measuring angles of elevation or inclination). Once the angle of inclination was determined, the distance from the proposed tower site was measured on the USGS Poquoson West Quadrangle, Virginia topographic map (enclosed). Using the angle of inclination, the distance to the low object and the distance from the proposed tower location, the minimum tower height necessary to be visible over the low object was calculated. The calculated height less than the proposed tower height of 150 feet would be determined to have a visibility potential. This Visual Impact Assessment was conducted only from public right of ways, and does not include any private landowners properties.

Findings – Visual Impact Assessment

During the Visual Impact Assessment, Stokes Environmental Associates, Ltd. found that the proposed tower would be visible from various locations within a one-mile radius of the proposed tower location. The following locations were evaluated for tower visibility. These locations were based on preliminary findings based on line of sight and low obstructions in the vicinity of these sites. These 19 locations are shown on the attached map entitled "Assessment Point Location Map".

Location Number	Site Location	Angle of Inclination (degrees)	Distance from proposed tower (feet)	Visible Height (feet)	Tower Visibility (150 foot tower)
1	John Carl Drive	11	550	106	Yes (44 feet visible)
2	Waterside Place	8.5	1100	164	No
3	Winders Lane	5.5	950	91	Yes (59 feet visible)
4	Souverain Landings	11	360	70	Yes (80 feet visible)
5	York Crossing at Choisy Crescent	4	1350	95	Yes (55 feet visible)
6	York Crossing at Constitution Dr	6	1100	116	Yes (34 feet visible)
7	York Crossing at Resolution Dr	20	700	255	No
8	Highway 17 at Wolf Trap Road	3.5	5300	324	No
9	Highway 17 at Dare Road	3	3300	173	No
10	Highway 17 at Washington Square Drive	6	2200	231	No
11	Highway 17 at Lakeside Dr	8	2900	408	No
12	Highway 17 at Heritage Square Shopping Center	5	3200	280	No

13	Jacobs Run	2	2400	84	Yes (66 feet visible)
14	Joshua Way	5	1700	148	Yes (2 feet visible)
15	Brandywine Dr at Brigade Dr	4	3300	230	No
16	Showalter Rd at Meredith Lane	4	2900	203	No
17	Showalter Rd at Bailey Dr	5	2400	210	No
18	Bailey Dr	9	1000	158	No
19	Quest Court	6	1500	157	No

The proposed tower was determined not to be visible from other locations within a one-mile radius of the tower site based on visual analysis of the distance and high angle of inclination to the proposed tower site.

During the field investigation of the subject site and the surrounding vicinity two other monopole communication towers were noted in the immediate vicinity along with a high voltage power line.

Please find attached, in appendix A, a viewshed map showing the areas of visibility of the proposed 150 foot tower, based on the above data, visual field assessments, and assessment of maps and aerial photographs of the subject site and surrounding vicinity. Also attached in appendix A is a location map for the above data points.

Methodology – Photo Simulation

Original photographs were taken be SEA with a Kodak DX3600 Digital Camera 2.2 mega pixel, on auto setting using a 35mm and 70mm lens. The photographs were taken and stored on the internal memory of the camera and then transferred and saved at a resolution of 1800x1200 pixels in the PhotoDeluxe format (.PDD). The computer generated photo-simulations were accomplished by copying a photographic image of an existing tower with the same dimensions as the proposed tower, and electronically pasting it in the photograph to simulate the existence of the proposed tower at the proposed tower location from various angles. The dimensions of the proposed tower are 150 feet tall with a four-foot base diameter and an eighteen-inch diameter top. A standard antenna array with top hat mountings was also simulated into the original photograph by electronically coping and pasting a photographic image of an existing antenna array. The photographic image of the imposed tower was scaled up or down accordingly to match the scale of the existing tree line at the proposed tower location. The finished product of the photo-simulation picture was then printed at 300 dots per inch (dpi) on a Hewlett Packard 1200C ink jet printer using photographic grade paper at a size of 10-inches by 6.667-inches.

Findings – Photo Simulation

The Harwood Mills/Mulch tower site is located at the 1650 feet northwest of the entrance into the Peninsula Hardwood Mulch entrance off of Lakeside Drive. The three-photo simulation vantage points were chosen based on the proposed tower visibility from these points and as suggested by the York County Planner Mr. Tim Cross. The following observations were made based on the photo simulation of the proposed tower:

Photo Simulation Picture #1: The original photograph was taken from John Carl Drive (please see appendix B). This vantage point was approximately 550-feet southwest of the proposed tower location. The proposed tower is minimally visible from this vantage point through some of the mature trees located between this vantage point and the proposed tower location. However, the proposed equipment shed, fenced in compound, and landscaping will not be visible from this vantage point as depicted in the simulation.

Property uses located adjacent to this vantage point included residential housing. This viewpoint is one of a few areas located in this residential section that the tower is visible. As depicted in the photo simulation the visibility of the tower is minimal due to existing mature trees in the area.

Photo Simulation Picture #2: The original photograph from Winder's Lane (please see appendix B). This vantage point is approximately 950-feet east of the proposed tower site. It should be noted that this particular picture is zoomed to 70mm. The proposed tower is minimally visible from this vantage point through some of the mature trees located between this vantage point and the proposed tower location. However, the proposed equipment shed, fenced in compound, and landscaping will not be visible from this vantage point as depicted in the simulation.

Property uses located adjacent to this vantage point included residential housing. This viewpoint is one of a few areas located in this residential section that the tower is visible. As depicted in the photo simulation the visibility of the tower is minimal due to existing mature trees in the area.

Photo Simulation Picture #3: The original photograph from Souverain Landing (please see appendix B). This vantage point is approximately 360-feet west of the proposed tower site. The proposed tower is expected to be visible from this vantage point, while equipment shed, and landscaping are not expected to be visible from the vantage point due to visual obstructions, such as the current tree line and buildings, as depicted in the photo simulation.

Property uses located adjacent to this vantage point included residential housing. This viewpoint is one of a few areas located in this residential section that the tower is visible.

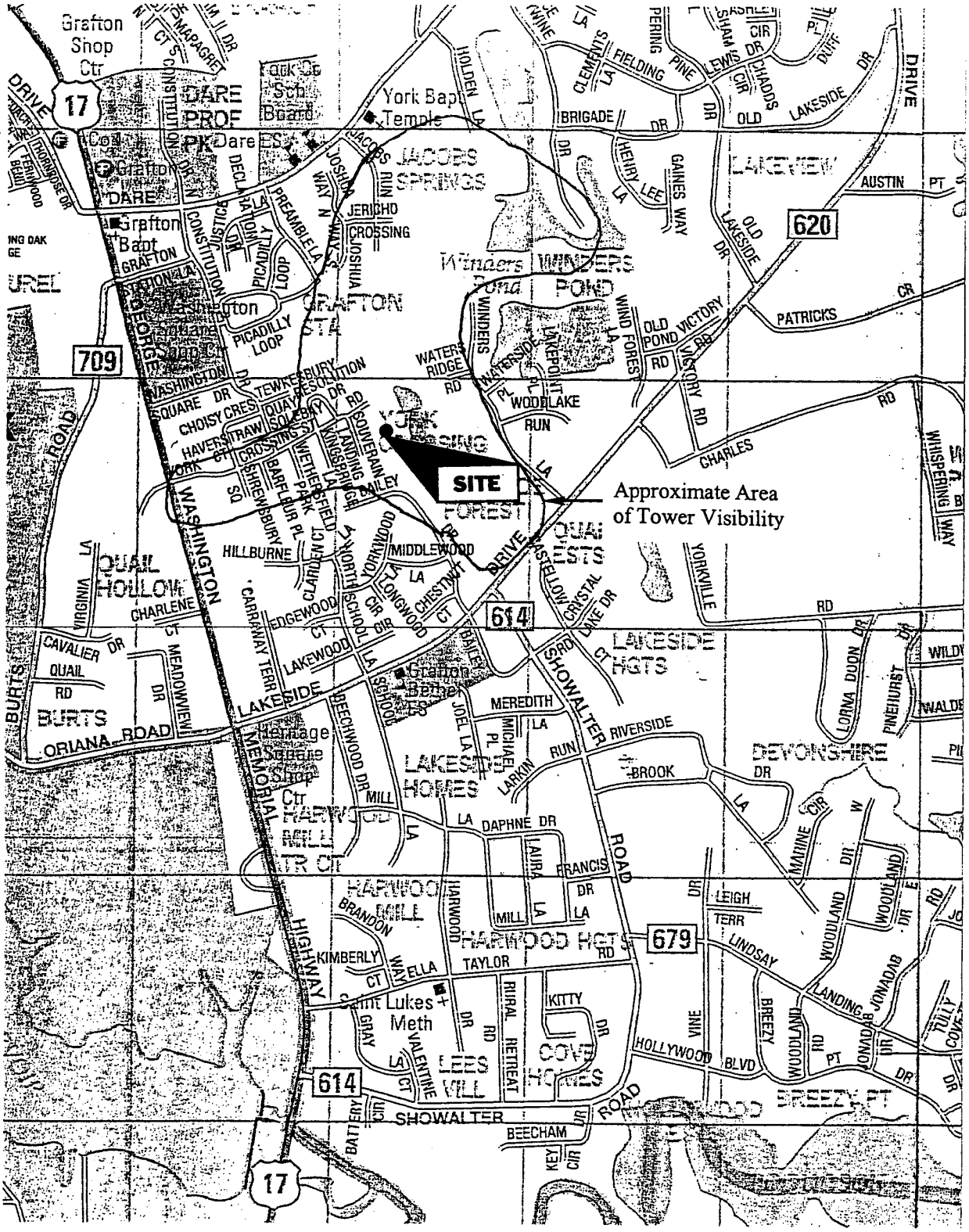
As depicted in the photo simulation the visibility of the tower is minimal due to existing mature trees in the area.

Conclusions

As shown in the three photo simulations and the visual impact assessment, the 150-foot tower will have a minimal effect on the immediate vicinity of the tower site. The majority of the residential sections in the vicinity are forested with mature trees reaching heights of 50 to 60 feet. This will provide a visual screening of the tower; therefore the tower will only be minimally visible from these locations. The proposed facility is not anticipated to significantly alter the general visual character of the vicinity.

Appendix Section

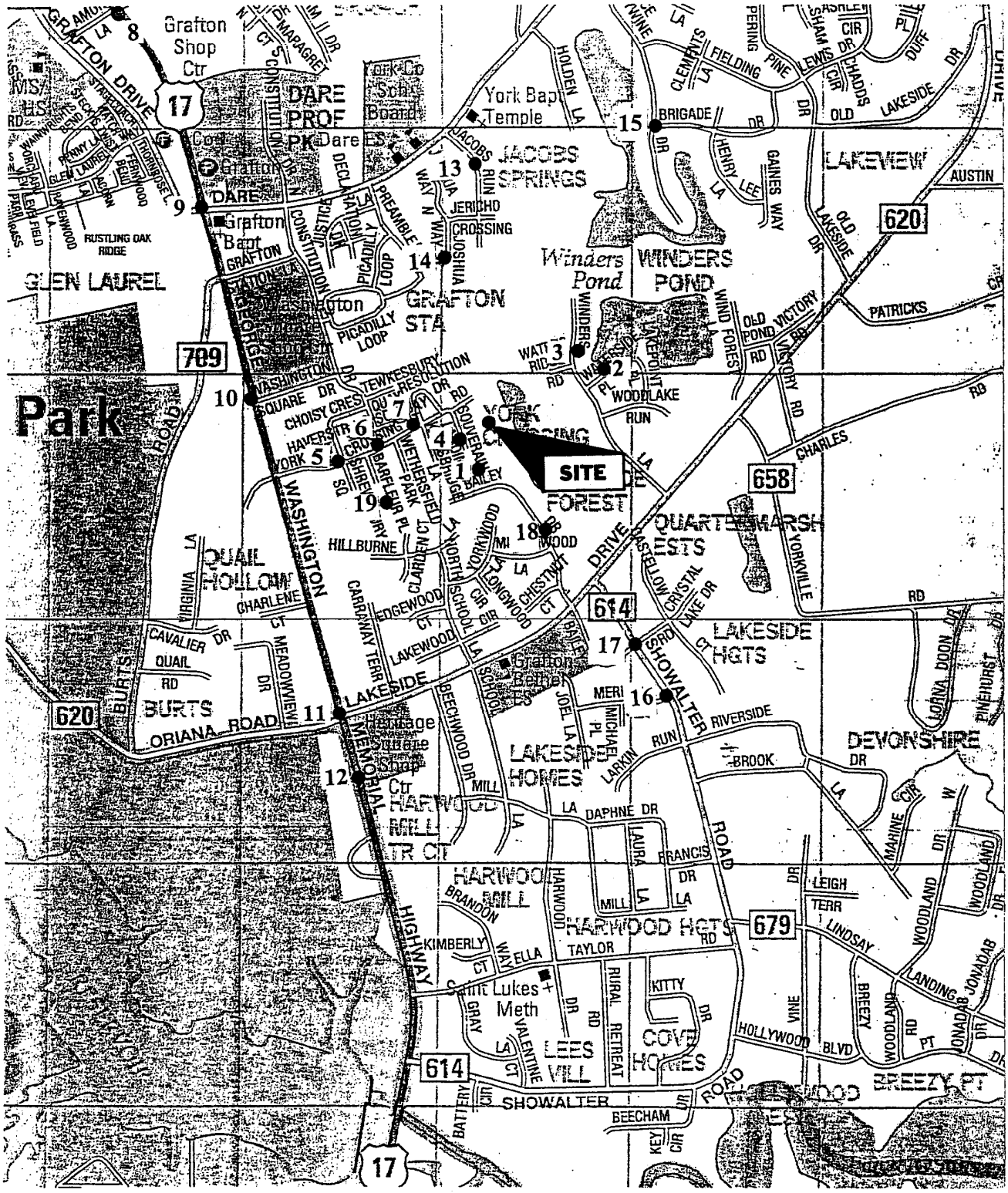
Appendix A – Visual Impact Assessment Maps



STOKES ENVIRONMENTAL ASSOCIATES, LTD.

VIEWSHED MAP

Project Name: Harwood Mills/Mulch Site
Project Number: SEA 03-1782
Scale: 1" = 1333'
Source: ADC Map of Greater Hampton Roads, 2000



STOKES ENVIRONMENTAL ASSOCIATES, LTD.

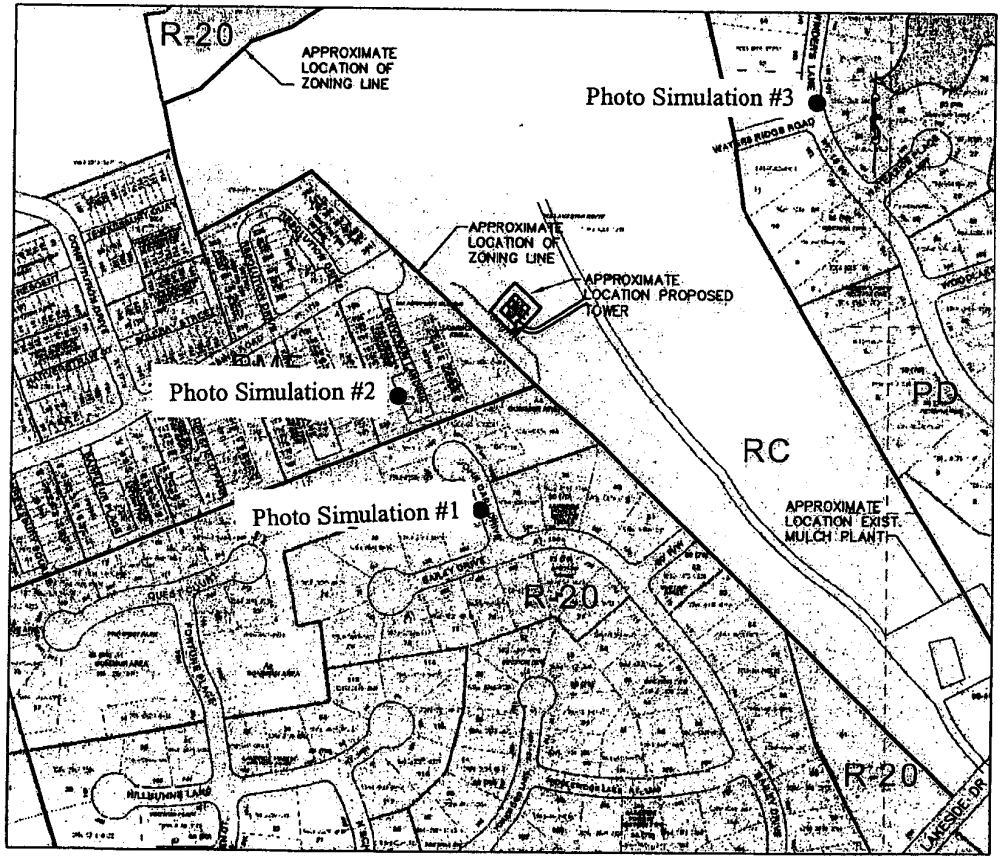
ASSESSMENT POINT LOCATION MAP

Project Name: Harwood Mills/Mulch Site
Project Number: SEA 03-1782
Scale: 1" = 1333'
Source: ADC Map of Greater Hampton Roads, 2000

SITE SUMMARY:

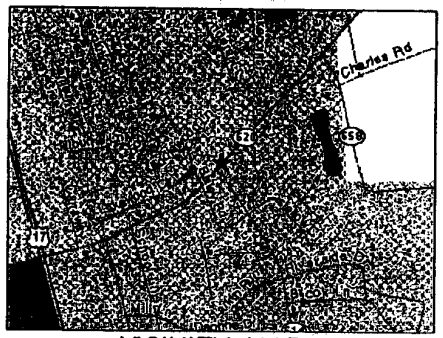
SITE ADDRESS	715 LAKESIDE DRIVE YORKTOWN, VIRGINIA 23690
COORDINATES	N 37° 9' 16", W 76°27' 11", 5' 40' AMSL
SITE ZONING	MUL-RC, RR
TAX MAP PARCEL	S06D-4251-1749
DEED BOOK	DB 343, PG 702
PLAT BOOK	N/A

NOTE: BACKGROUND SHOWING EXISTING FEATURES IS BASED ON YORK COUNTY TAX MAP AND AERIAL PHOTOGRAPHS. THIS PLAN IS NOT FOR CONSTRUCTION AND IS FOR PLANNING PURPOSES ONLY.

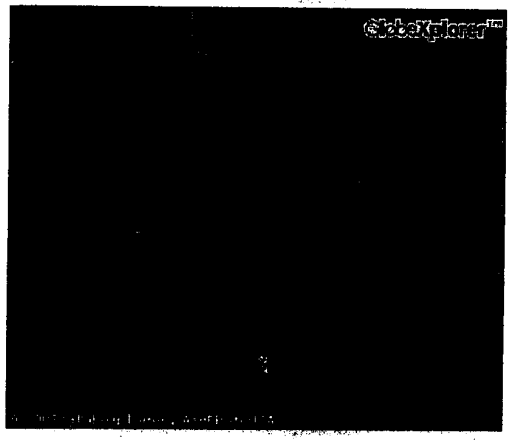


PRELIMINARY SITE PLAN
SCALE: 1"=300'

GRAPHIC SCALE
0' 300' 600'
(IN FEET)
1 inch = 300' ft.



VICINITY MAP
SCALE: 1"=2000'



AERIAL PHOTOGRAPH
NOT TO SCALE

Kimley-Horn and Associates, Inc.

DATE	05/05/03
SCALE	AS SHOWN
DESIGNED	AJB
DRAWN	JJE
CHECKED	JJE

REVISIONS:

POWER COMPANY
PROPERTY OWNER
DEVELOPER
BUILDING DEPARTMENT
TELEPHONE COMPANY
SITE ADDRESS

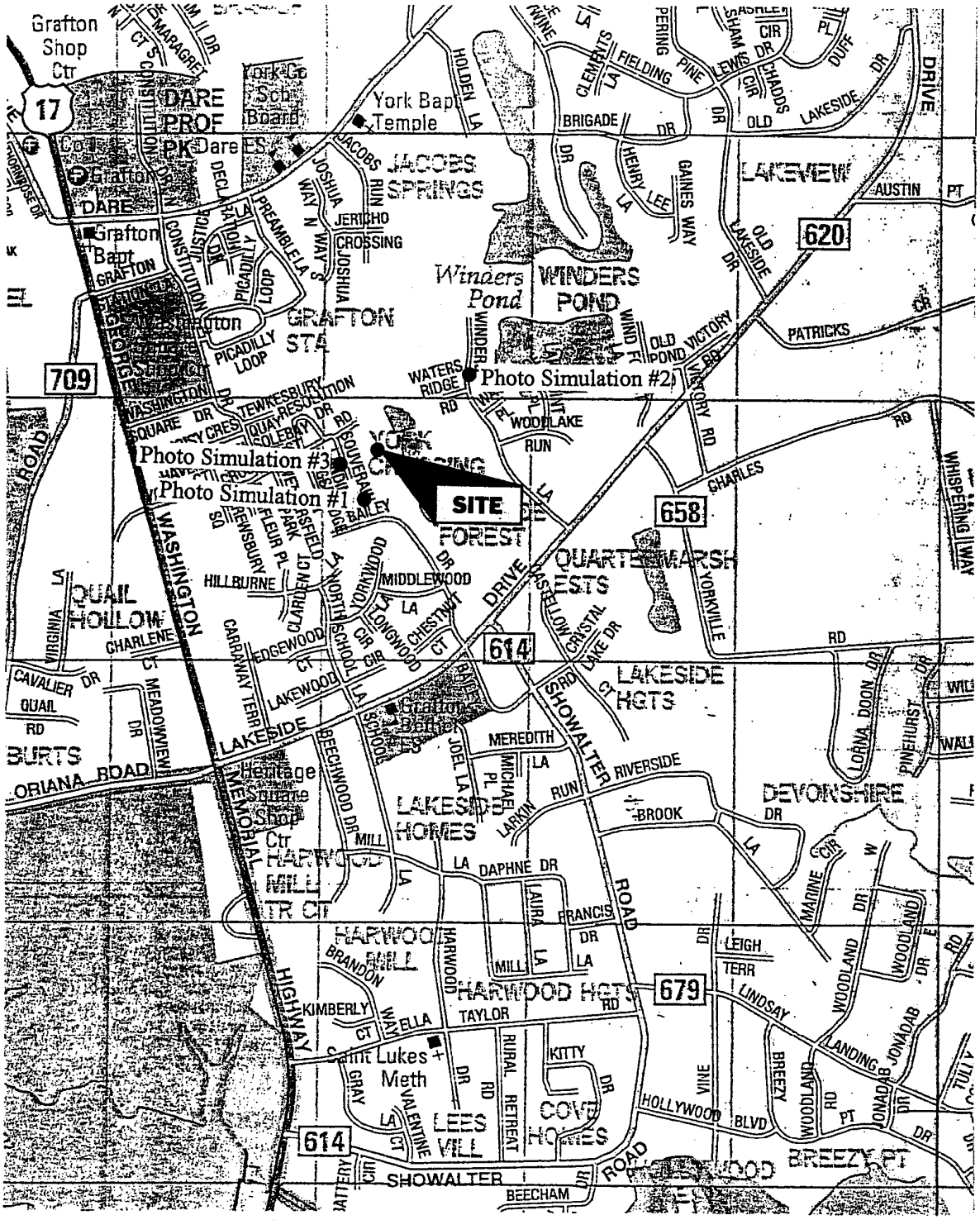
ALLTEL

PRELIMINARY SITE PLAN
150' MONOPOLE
ALLTEL
HARWOOD MILLS
YORKTOWN
VIRGINIA

DOCUMENT NO.
CUP-1

K:\ALLTEL\1116\Harwood Mills\1116dwg\cup.dwg, 05/07/2003 09:46:52 AM

Appendix B – Photo Simulation Pictures and Location Map



STOKES ENVIRONMENTAL ASSOCIATES, LTD.

PHOTO SIMULATION LOCATION MAP

Project Name: Harwood Mills/Mulch Site
Project Number: SEA 03-1782
Scale: 1" = 1333'
Source: ADC Map of Greater Hampton Roads, 2000

Photo Simulation #1: Original Photograph taken from John Carl Drive, approximately 550 feet southwest of the proposed tower site. The tower is depicted as a 150 foot Monopole structure with attached antenna array. (5/6/03 JAR)

Photo Simulation #2: Original Photograph taken from Winder's Lane, approximately 950 feet east of the proposed tower site. The tower is depicted as a 150 foot Monopole structure with attached antenna array. Note: The original photograph is zoomed to 70mm. (5/6/03 JAR)

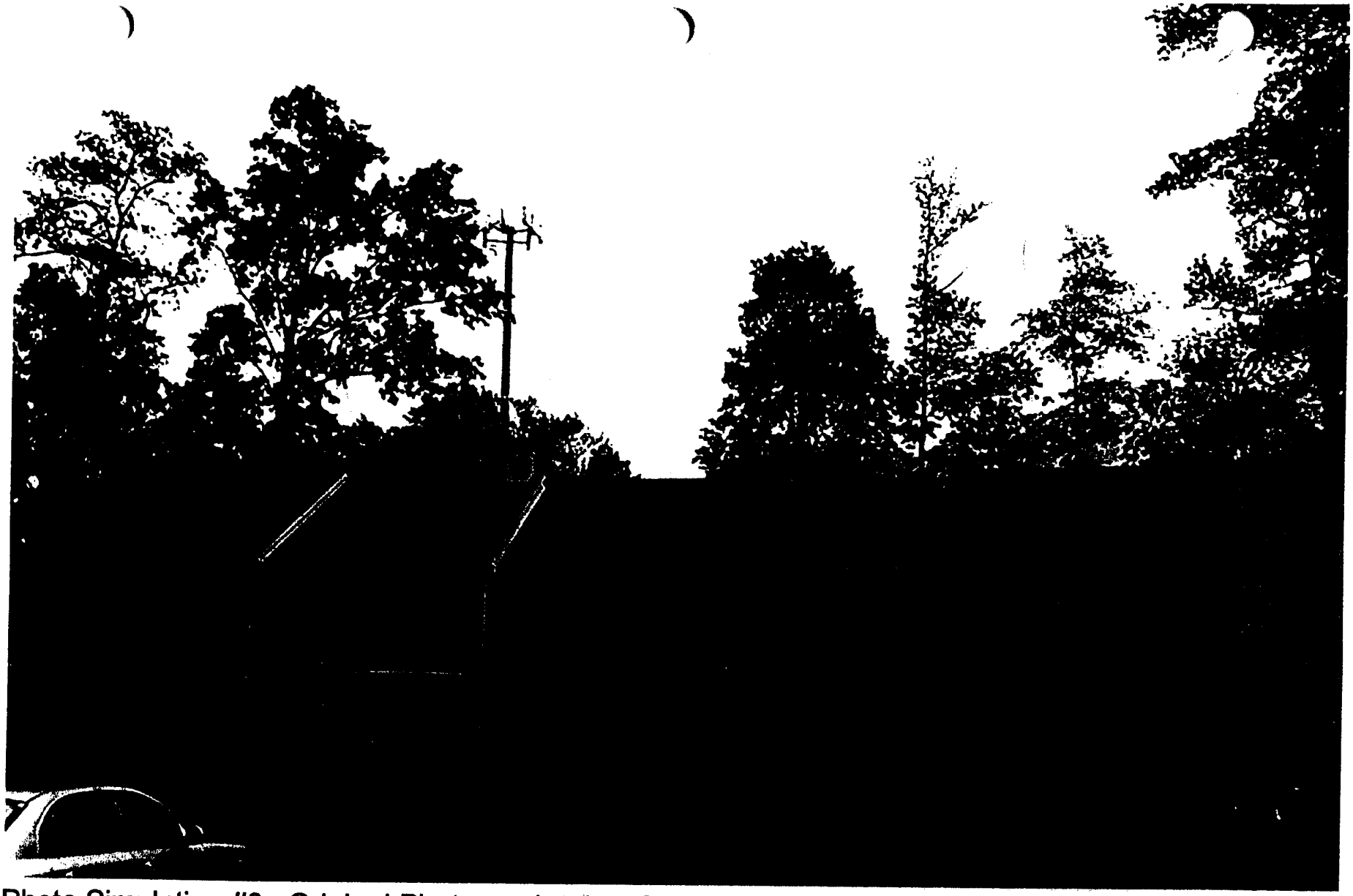


Photo Simulation #3: Original Photograph taken from Souverain Landing, approximately 360 feet west of the proposed tower site. The tower is depicted as a 150 foot Monopole structure with attached antenna array. (5/6/03 JAR)